

The Effect of Home Rehabilitation on Quality of Life Among Stroke Patients in Phetchaburi Province

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Abstract— Stroke patients usually have disabilities and needed a caregiver. Home rehabilitation can help patients improve the ability of self-care. The purpose of this study was to examine the effect of home rehabilitation on quality of life among stroke patients. The sample was 30 stroke patients who were treated and discharged from Prachomklao Hospital. There were two group including control and experimental group which 15 samples in each. The subjects in the experimental group received a home rehabilitation program whereas those in the control group obtained routine nursing care. The research instrument was home rehabilitation program. The data were tested by using descriptive statistics and t-test. The results of this study revealed that the quality of life among stroke patients after receiving the home rehabilitation program was significantly higher than those who did not, ($p < .001$).

Keywords: *home rehabilitation; quality of life; stroke patient*

Introduction

Most of the hospitalized patients in neurological ward were stroke patients. The initial causes were launched from ischemic stroke or cerebral infarction then the blood supply to brain was blocked. The statistic from Bureau of Policy and strategy presented that, in 2006-2009, cerebrovascular diseases were the fourth leading cause of death in Thailand [1]. Strokes may cause paralyze or long term disability in working [2]. At the present the modern medical can effectively reduce the mortality rate and treat the strokes, however, the stroke patients have to encounter with the long term complications and disabilities [3]. From this problem, it effect to their daily life and their family [4] because of limitation for self-care. Thus, family members should care the stroke patients continuously and closely. Health care provider should provide the activity that help to reduce the effect to physical (bed sore, pneumonia, and joints stiffness) bedsore, mental, and social which can improve the quality of life [5]. Thus, it is necessary to investigate the effect of home rehabilitation program on quality of life among stroke patients. The aims of this study were 1) to compare the Quality of Life Index (QLI) of stroke patients before and after taking part in home rehabilitation program and 2) to compare the QLI of stroke patients between home rehabilitation group and regular nursing care group.

Research Methodology

The samples were 30 patients who were first diagnosed by physician as stroke within 3 months-1 year from Phrachomklao Hospital. The inclusion criteria were as follows: 1) older than 18 years of age, 2) able to communicate and understand Thai well, 3) if there were other underlying medical conditions that effect to rehabilitation such as hypertension or diabetes, it should be under control, 4) having the Prasat Neurological Institute's Activities of Daily Living (ADLs) score in moderate level [5] and 5) available of family caregiver.

The qualification of caregiver should be as the following: 1) being a close relative and living in the same house of stroke patients, and 2) responsible for caring the patient directly and no payment. All patients and caregiver were willing to participate in the study. The consent form was sign by all participants before taking part.

The researchers selected 30 samples in the study. The subjects were divided into two groups, control group and experimental group, which each group was randomly composed of 15 samples.

Research instruments

- 1) Home rehabilitation program which consisted of five parts as follows: health education, practice moving the affected limb, mobility of joints training and strengthening motor skills.
- 2) A strokes caregiver handbook: this manual was indicated signs and symptoms of strokes, problems that usually found during caring, prevention of recurrent strokes, and moving practice.
- 3) The stroke patient's rehabilitation record form
- 4) The Prasat Neurological Institute's ADLs form^[6] was pilot used in 3 stroke patients. The health education also attempted to exploit and evaluate its understanding and content before using in this program.

Data collection instruments in this study were as follows:

1) Personal information: it included information relating to stroke patient's background: gender, age, marriage status, and ADLs score.

2) The Quality of Life Index (QLI) evaluation form: it was developed from the Ferrans and Powers' QLI evaluation form of heart disease patient. The questions were divided into two dimensions which each consisted of 4 factors as follows: 15 items were health and functioning, 8 items were asked about socioeconomic, 7 items were in psychological/spiritual, and 4 items for family.

The implementation of program

Stage 1: Preparation

1. Created the research instruments.
2. Set up the experimental plan with head of medical ward in Prachomklao Hospital.
3. Informed data collection method and research instruments to researcher team.
4. Selected the participants who met the inclusion criteria and proposed them to sign their names or participating in this study.

Stage 2: Experimentation

Control group

Step 1: Interviewed about personal information and evaluated the ADLs score

Step 2-3: Interviewed about signs of strokes and daily life activities.

Step 4: Evaluated the ADLs score, re-checked QLI score, and giving some advice.

Experimental group

Step 1: Interviewed about personal information, evaluated the ADLs score and QLI score

Step 2: Made a interpersonal relationship, interviewed and evaluated the patient and caregiver problems then gave some advices base on their problems, gave the health education about strokes: causes, signs and symptoms, presented a stroke caregiver handbook to caregiver then made a discussion.

Step 3: Assessed the problems and provided nursing interventions, provided home rehabilitation health education which focused on the problems that case usually faced. Then, evaluated the teaching result and let the participants and their caregiver asked questions.

Step 4: Evaluated the problems and provided nursing interventions, reviewed the last topic in health education, gave the patients health education on the prevention of stroke recurrent, after that the result of teaching was evaluated and discussed with the patients and caregiver.

Step 5: Evaluated the problems and provided nursing interventions, reviewed the last topic in health education, gave the patients health education on practice in moving the affected limbs, mobility of joints training, after that the result of teaching was evaluated and discussed with the patients and caregiver.

Step 6: Evaluated the problems and provided nursing interventions, reviewed the last topic in health education, gave

the patients health education on practice in strengthening motor skills, after that the result of teaching was evaluated and discussed with the patients and caregiver.

Step 7: Evaluated the problems and provided nursing interventions, reviewed the last topic in health education, gave the patients health education on bed exercise, moving the patient and using of wheelchair, after that the result of teaching was evaluated and discussed with the patients and caregiver. In this step, all suggestions and topics on health education were reviewed. The importance of rehabilitation was emphasized to patients and caregivers.

Step 8: interviewed the patients about the improvement and continuation of rehabilitation

Step 9: Checked for the completeness and continuation of rehabilitation record form, assessed the QLI and ADLs score, and expressed the gratitude to participants.

Data analysis

The following statistical procedures were employed in the present study:

1. Percentage, mean, and standard deviation were used in a demographic analysis of the subjects.
2. Mean and standard deviation were employed to analyze the Quality of life index (QLI).
3. Paired t-test was determined in comparison of the QLI between before and after participating in home rehabilitation group and regular nursing care group.
4. Independent t-test was selected in analyzing the comparison of QLI between control group and experimental group.

Results

1. The demographic data showed that all of them were Buddhism and their age was in 61-70 years old which 60% of them married. In addition, 60% of the participants in control group were male while female was the majority (60%) in experimental group. Most of the participants were married (60%). Considering educational level, the number of samples in control group who graduated in primary level was same as bachelor degree (33.3%). However, 53.3% of experiment group were graduated in primary level.

The occupations before having stroke were variety. Most of the patients in control group were merchandiser (26.7%) and government officer (26.7%). Agriculturist was the majority occupation in experimental group (40%). 73.3% of control group had the average income of family was more than 10,000 Baht a month while 5,000-10,000 Baht was the average income of experimental group. The majority participants in control group were diagnosed as stroke for 9-12 months (46.7%) whereas the 60% of stroke patients in experimental group were 3-5 months. Additionally, most of the stroke patients in both group had ADLs score at 50.

2. The QLI score between before and after participating in home rehabilitation program of the experimental group was significantly higher at 0.001, as presented in the Table 1.

TABLE I. THE COMPARISON OF QLI BETWEEN BEFORE AND AFTER PARTICIPATING IN HOME REHABILITATION PROGRAM

Quality of life	Before participating		After participating	
	X	SD	X	SD
Health and function	11.85	0.81	18.54	1.48
Socioeconomic	12.24	0.53	16.89	2.11
Spiritual	12.41	1.19	18.93	2.75
Family	13.38	1.95	20.83	3.01
Total	12.47	0.91	18.80	1.69

**p<.001

From the comparison of QLI between the control group and before taking part in home rehabilitation program of the experimental group, it was found that no different. As showed in Table 2.

TABLE II. THE COMPARISON OF QLI BETWEEN THE CONTROL GROUP AND BEFORE PARTICIPATING IN HOME REHABILITATION PROGRAM OF THE EXPERIMENTAL GROUP

Quality of life	Control group		Experimental group	
	X	SD	X	SD
Health and function	11.85	1.07	11.85	0.81
Socioeconomic	12.11	0.31	12.24	0.53
Spiritual	12.25	1.06	12.41	1.19
Family	12.89	1.29	13.38	1.95
Total	12.27	0.67	12.47	0.91

**p<.001

The QLI mean score of experimental group after participating in the home rehabilitation program was significantly higher than the QLI mean score of control group at .001. As illustrated in Table 3.

TABLE III. THE COMPARISON OF AN AVERAGE SCORE OF QLI BETWEEN CONTROL GROUP AND EXPERIMENTAL GROUP

Quality of life	Control group		Experimental group	
	X	SD	X	SD
Health and function	12.55	1.19	18.54	1.48
Socioeconomic	12.92	0.81	16.89	2.11
Spiritual	12.80	1.04	18.93	2.75
Family	13.35	1.02	20.83	3.01
Total	12.90	0.53	18.80	1.69

**p<.001

Discussion

This study aimed to examine the effect of home rehabilitation program on quality of life among stroke patients. The results were discussed as the following 1) After taking part in the home rehabilitation program, stroke patients had Quality of Life Index (QLI) score higher than before participating in the program and 2) QLI score of the stroke patients who joined the home rehabilitation program was higher than the QLI score of the stroke patients who had a regular health education.

Good relationship with patients and caregivers, health education, practice of motor moving, and urging them to share and discuss their problem base on real situation; all of these aspects helped the patients to gained confidence, boosted the ability to adjust them with their disease. The caregiver role in home rehabilitation was very important. The caregiver together with a nurse provided the mental support and encourages the patients to continuously participate in the

rehabilitation program [9, 10]. To make the stroke patients capable to adjust them with their condition, the knowledge of disease, skills in rehabilitations, and planning for changing the behavior were needed. The patients who could able to adopt themselves with their disease would reduce time in rehabilitation and increase life satisfaction [7, 8].

In order to enlarge the knowledge of disease, the stroke caregiver handbook was developed to be easy to read. This manual was given to the patients and caregivers in order to able to access to stroke information anytime they want.

It could be addressed that the stroke understanding encouraged the patients and caregivers to concern on the important of rehabilitation. The program also effect on correcting behavior of the patients. The perception toward their present condition affected them to be able to adopt them with stroke. The well family relationship and caregiver significantly supported the rehabilitation process which generated the good physical well-being, psychological well-being, and body image concerns [10, 11]. It could be concluded that the knowledge of disease and the continuously training on moving the affected limb, joints training and strengthening motor skills facilitated the stroke patients and their caregivers to improve the stroke understanding and increase rehabilitation skills. As a result, the patients had better quality of life and able to complete more daily activities.

It was recommended that further study should be performed with increasing the number and area of subject. The level of disability should be classified such as mild, moderate, or severe disability; in order to enhance the level of QLI understanding in all point of disability.

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